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ARTIFICIAL DILATION OF THE DUODENUM FOR RADIOGRAPHIC EXAMINATION.

BY LEWIS GREGORY COLE, M. D., NEW YORK.

This is a preliminary paper on a method of examination which was described in an article entitled "The X-Ray Diagnosis of Pyloric and Duodenal Lesions," read before the American Association of Obstetricians and Gynecologists at Louisville, September 26, 1911.

The lumen of the entire duodenum can be determined by the following procedure: The patient swallows an Einhorn pyloric dilator. This is a small ball attached to a small rubber tube. Near this ball is a small rubber bag which collapses around the tube just behind the ball. This is as easily swallowed as the "old-fashioned pill" and may be administered with food the day before the examination, or given a short time before the examination when the patient assumes a position which will readily allow it to pass into the duodenum and jejunum.

The small rubber bag, which is surrounded by a silk bag about the size of the lumen of the duodenum, is then inflated with air and acts as an intestinal obstruction; bismuth and buttermilk is then given by mouth and passes readily into the duodenum. The temporary obstruction prevents the bismuth from passing on through the jejunum. The duodenum is dilated by the bismuth and buttermilk and a radiogram shows perfectly the contour of the dilated duodenum. If any portion of the duodenum is held down by adhesions either from duodenal or gastric ulcer, or gall bladder infection, it fails to expand and the constricted area is distinctly shown radiographically. This procedure may be done purely for diagnostic purposes, or the air may then be removed from the rubber

bag and the bag withdrawn till it reaches the area of constriction, and that portion of the duodenum bound down by adhesions may then be stretched by inflating the bag with air; this may be done under fluoroscopic examination The same procedure is applicable to the pylorus. The advantage of this method is that all friction on the mucous membrane is avoided by not drawing the bag through the duodenum or pylorus while it is inflated with air.

I believe that the following modification of Einhorn's pyloric dilator will be of great value: A second tube slightly larger than the first surrounds it and terminates just behind the rubber bag. Through this tube bismuth and buttermilk, or bismuth suspended in some other fluid may be injected or aspirated directly from the duodenum, and the exact amount of distention of the duodenum thus controlled.

Besides showing adhesions from duodenal and gastric ulcers, and gall bladder infection, the head of the pancreas can be more perfectly outlined by the duodenum as suggested by Doctor Crane, and in some cases the canal of Wirsung may be distinctly shown.